

REMARKS

Claims 1-7, 10-14, 20, 22-26, 28, 31-35, 39-42, and 45-47 are pending in this application. By this Amendment, claims 1 and 12 are amended to incorporate the subject matter of claims 8 and 9, claims 13 and 26 are amended to incorporate the subject matter of claim 18, and claims 28 and 39 are amended to incorporate the subject matter of claim 30. Claims 8, 9, 18 and 30 are canceled without prejudice to, or disclaimer of, the subject matter therein. In addition, claims 41 and 42 are amended for form. No new matter is added. Applicants respectfully request reconsideration and prompt allowance of the pending claims for at least the following remarks.

Entry of the amendments is proper under 37 C.F.R. §1.116 (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (as the amendments amplify issues previously discussed throughout prosecution); and (e) place the application in better form for appeal, should an appeal be necessary. Entry of the amendments is thus respectfully requested.

I. The Claims Define Patentable Subject Matter

The Office Action rejects claims 1-14, 18, 25 and 26 under 35 U.S.C. §103(a) over U.S. Patent No. 6,107,910 to Nysen (Nysen) in view of U.S. Patent No. 6,362,737 to Rodgers et al. (Rodgers) and U.S. Patent No. 5,940,006 to MacLellan et al. (MacLellan); rejects claims 28, 30-33, 35 and 39 to 42 under 35 U.S.C. 103(a) over Nysen, Rodgers, MacLellan and U.S. Patent Application Publication No. 2001/0040508 to Janning et al. (Janning); rejects claim 34 under 35 U.S.C. §103(a) over Nysen, Rodgers, MacLellan, Janning and U.S. Patent Application Publication No. 2001-0020897 to Takatori et al. (Takatori); rejects claims 20 and 22-24 under 35 U.S.C. §103(a) over Nysen, Rodgers, MacLellan, and U.S. Patent No. 6,792,276 to Butovitsch et al. (Butovitsch); and rejects claims 45-47 under 35 U.S.C. §103(a) over Nysen, Rodgers, MacLellan and U.S. Patent No. 6,839,560 to Bahl et al. (Bahl). The

cancellations of claims 8, 9, 18 and 30 render the rejections of these claims moot. The rejections of the rest of the claims are respectfully traversed.

A. Claims 1 and 12

Nysen, Rodgers and MacLellan either alone, or in combination, fail to disclose each and every feature recited in independent claim 1. For example, Nysen, Rodgers and MacLellan fail to disclose "a charging portion operable to charge the endpoint device with an electric energy derived from said interrogating signal, said charging portion activating the endpoint device when an amount of said electric energy stored in said endpoint device has reached a predetermined value, wherein said distance detecting portion is operable to detect said distance between said interrogator and said end point device, on the basis of a change of the electric energy with which the endpoint device is charged by said charging porting," as originally recited in claims 8 and 9.

In the rejection of claims 8 and 9, the Office Action asserts that Nysen discloses the recited charging portion and distance detecting portion. The Office Action further asserts that Nysen discusses a tag supplied with an RF energy of a signal with a range of frequencies including a resonance frequency which varies based on a mutual inductance occurring between the antenna coils of overlapped tags. The Office Action also asserts that the coil stores the charge and acts as a primary or secondary supply for the tag and that the charge depends on the intensity of the signal. Applicants respectfully disagree with these assertions.

For example, Nysen discloses an apparatus for receiving signals from moving cars passing through toll lanes (see Nysen, col. 5, lines 18-36). The signals from each transmitter weaken as distance increases (see Nysen, Figs. 36 and 37). The system of Nysen uses this deterioration in relation to distance to discriminate from cars that are in the desired lane as opposed to cars that are not in the desired lane (see Nysen, col. 35, lines 18-36). The detector detects signals above a predetermined threshold (see Nysen, col. 35, lines 18-36). However,

this is not the same as detecting distance. The apparatus of Nysen is concerned with signal strength which happens to correlate with distance. However, it is the strength of signal that is important and not the actual distance. Therefore, Nysen fails to disclose "said distance detecting portion is operable to detect said distance between said interrogator and said endpoint device, on the basis of a change of the electric energy with which the endpoint device is charged by said charging portion," as recited in original claim 9.

In addition, Nysen merely discusses transmitters and receivers transmitting and receiving signals and the relative strength of these signals in comparison with the distance that the signals travel (see Nysen, col. 34, line 48 - col. 35, line 36). Nysen fails to disclose a tag supply with an RF energy of a signal with a range of frequencies that include a residence frequency of each tag varying based on a mutual inductance occurring between an antennae coil of overlapped tags or that such coils store the charge and act as a primary or secondary voltage supply for a tag and that a charge depends on intensity of a signal. Therefore, Nysen fails to disclose the charging portion recited in claim 1. Rodgers and MacLellan fail to remedy this deficiency.

Claim 12 also recites these features. Therefore, claim 12 is also patentable at least for the reasons discussed above for claim 1 as well as for the additional features that claim 12 recites.

Dependent claims 2-7, 10 and 45-47 depend from independent claims 1 and 12, respectively. Therefore, these claims are also patentable, at least for their dependency from claims 1 and 12 as well as for the additional features that these claims recite.

B. Claims 13 and 26

Regarding claim 13, Nysen, Rodgers and MacLellan, either alone, or in combination, fail to disclose each and every feature of claim 13. For example, Nysen, Rodgers and MacLellan fail to disclose "an available-band determining portion operable to determine an

available frequency band of a subcarrier signal available for said at least one endpoint device on the basis of said communication detected by said communication-condition detecting portion so that an upper limit of said available frequency band increases with an increase in at least one of the collision rate, the number of occurrences of collision and the amount of error data which has been detected by said communication-condition detecting portion," as originally recited in claim 18, and currently incorporated in claim 13.

The Office Action agrees that Nysen and MacLellan fail to disclose this feature. However, the Office Action asserts that Rodgers remedies these deficiencies by disclosing the use of frequency bands where the number of sub scans will increase as the quality index of a signal decreases and the amount of noise received increases. Applicants respectfully disagree with this assertion.

For example, Rodgers discloses selecting a sequence of frequencies so as to avoid transmitting more than one predetermined average power in any particular band of frequencies (see col. 11, line 65 - col. 12, line 1). The Office Action cites Rodgers at col. 11, line 66-col. 13, line 23 for disclosing features recited in claim 18. However, this cited portion does not support the Office Actions assertion. Rodgers fails to disclose using frequency bands where the number of sub scans will increase as the quality index of a signal decreases, and the amount of noise received increases as asserted by the Office Action. Furthermore, Rodgers fails to disclose determining an available frequency band based on any of increase in at least one of the collision rate, the number of occurrences of collision and the amount of error data as required by claim 13. Therefore, Rodgers fails to remedy the deficiencies of Nysen and MacLellan.

Independent claim 26 also recites this feature. Therefore, independent claim 26 is also patentable at least for the reasons discussed above for independent claim 13.

Dependent claims 14, 20, 22-25 depend from independent claim 13. Therefore, these claims are also patentable at least for their dependency from independent claim 13 and for the additional features that these claims recited.

C. **Claims 28 and 39**

Nysen, MacLellan and Rodgers, either alone, or in combination, also fail to disclose each and every feature of independent claim 28. For example, Nysen, MacLellan and Rodgers fail to disclose "said frequency-utilization-ratio setting portion is operable to lower a center frequency of the distribution of the frequency utilization ratio of the subcarrier signal, when a supply voltage of said battery cell detected by the power-source-information detecting portion is lower than a predetermined threshold value," as originally recited in claim 30.

The Office Action agrees that Nysen and MacLellan fail to disclose this feature. However, the Office Action asserts that Rodgers remedies this deficiency. In particular, the Office Action asserts that Rodgers, at col. 11, line 65 - col. 13, line 24 discusses a use of lower bands of a subscan, lower bands carry more energy than higher bands; therefore, lowering the frequency will help the signal reach tags at a far distance. Applicants respectfully disagree with this assertion.

For example, Rodgers discloses determining a sequence of frequencies at a desired scan range (see Rodgers, col. 11, line 65 - col. 13, line 24). The cited portion of Rodgers fails to disclose using lower bands of a subscan. In addition, the Office Action fails to identify where in the cited portion Rodgers discloses "when a supply voltage of said battery cell detected by the power-source information detecting portion is lower than a predetermined threshold value," as originally recited in claim 30. In fact, Rodgers is silent regarding using lower bands of a subscan "when a supply voltage of said battery cell detected by the power-source information detecting portion is lower than a predetermined threshold value." Therefore, Rodgers fails to remedy the deficiencies of Nysen and MacLellan. Thus, the

combination of Nysen, MacLellan, and Rodgers fails to disclose "wherein said frequency-utilization-ratio setting portion is operable on the basis of one of the at least two discrete operating states of said battery cell detected by said power-source-information detecting portion to set the distribution of the frequency utilization ratio of the subcarrier signal so that a center frequency of the distribution of the frequency utilization ratio of the subcarrier signal is lowered, when a supply voltage of said battery cell detected by the power-source-information detecting portion is lower than a predetermined threshold value," as recited in claim 28.

Independent claim 39 also recites this feature. Therefore, independent claim 39 is also patentable, at least for the reasons discussed above for independent claim 28, as well for any additional features recited in independent claim 39.

Dependent claims 31-35 and 40-42 depend from independent claims 28 and 39, respectively. Therefore, these claims are also patentable, at least for their dependencies from independent claims 28 and 39, as well as for the additional features that these claims recite.

Applicants respectfully request withdrawal of the rejections.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims is earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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